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ABSTRACT

Two century-long goals in education have been pursued in this country: (a) growth in the average number of years of schooling completed, and (b) a reduction in the historic rate of school failure in the elementary and secondary schools. While in the past the two goals were closely compatible, it will not necessarily be true in the future. The two goals now imply strategies at two separate locations in the education system, neither of which need any longer enhance the other. If goal (a) is to be accomplished, then most of the future expansion that takes place in the average number of years of school completed must take place among persons who have already completed high school. If goal (b) is to be accomplished, there must be a reduction in the educational disadvantages which separate children of different social backgrounds early in their school experience. While goal (a) focuses on those who have already completed high school, goal (b) continues to focus on those who have not, and in all likelihood will not. It is of course possible to simply transfer goal (b) to higher education, whether or not it is attained at the elementary and secondary levels. However, as they are now defined, meeting both of these goals will mean, at least temporarily, an increase in funds devoted to each of the two parts of the education system. (Author/JM)

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FUTURE GROWTH OF AMERICAN EDUCATIONAL ATTAINMENT: IMPLICATIONS FOR THE EDUCATIONALLY DISADVANTAGED CHILD

by

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June 1972

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Summary of a Working Draft

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W. Timothy Weaver

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We have pursued two related century-long goals in education in this country: (a) growth in the average number of years of schooling completed, and (b) a reduction in the historic rate of school failure in the elementary and secondary schools.

The two goals were closely compatible. To accomplish (b) would enhance (a). But while that was true in the past, it will not necessarily be true in the future. The two goals now imply strategies at two separate locations in the education system, neither of which need any longer enhance the other. If goal (a) is to be accomplished, then most of the future expansion that takes place in the average number of years of school completed must take place among persons who have already completed high school. If goal (b) is to be accomplished, there must be a reduction in the educational disadvantages which separate children of different social backgrounds early in their school experience. While goal (a) focuses on those who have already completed high school, goal (b) continues to focus on those who have not, and in all likelihood will not. It is of course possible to simply transfer goal (b) to higher education, whether or not it is attained at the elementary and secondary levels.

However, as they are now defined, meeting both of these goals will mean, at least temporarily, an increase in funds devoted to each of the two parts of the education system. But to accomplish one is no longer to accomplish the

other. Unless funds are diverted from some other national priority, the real prospect is resolving neither the financial crisis in higher education nor the crisis in the classroom. The only alternative may be to accomplish one at the expense of the other.

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FUTURE GROWTH OF AMERICAN EDUCATIONAL ATTAINMENT: IMPLICATIONS FOR THE EDUCATIONALLY DISADVANTAGED CHILD

I.

Patterns of Growth

Dream of the Victorian Schoolmen

No major American educational leader, to my knowledge, in the past 200 years has ever argued that education of the public can or ought to be totally separable from some system of public schools. No major American educator has ever argued that public schooling is anything less than a necessary condition in sustaining the growth and development of a free and democratic society. But neither has any major American educator ever argued that public schooling would be a sufficient condition. Mann, Barnard, Dewey, even Jefferson were also strong proponents of the idea that deliberate education is only a small part of one's total education--education was to be primarily continued and sustained through the home, the polity, and the economic institutions. Yet, Jefferson saw the wisdom of a public elementary school system and fought for its enactment in Virginia--unsuccessfully.

Further, while no important American educator has ever been convinced that life alone educates, neither has any major educator ever argued that schools alone educate. Dewey, although convinced that deliberate education represents only a small part of one's total education, constantly returned to the public school as society's best instrument to service democracy's cause. But Dewey's philosophy had the effect of making public education co-extensive with education of the public--it effectively removed agencies of

informal education from the purview of public educators. As Lawrence Cremin puts it in The Genius of American Education, "for years his disciples continued to confuse notions of schooling 'the whole child' with nonsense about providing the child's whole education."[1]

Mass education has not always meant mass schooling. The Jeffersonian argument held that mass education was essential for the formation of a democratic society; we of the twentieth century have become accustomed to equating mass education with mass schooling. And while mass education had no such meaning for the generation of Horace Mann, it clearly did for Mann himself and his professional contemporaries. Mann's single-minded crusade was clearly for a system of common schools, which he firmly believed were the key to human happiness. On this point, Michael Katz states in Class, Bureaucracy and Schools, "Fully developed plans for systems of schools mark the reports and appeals of Mann, Barnard, and their contemporaries. Their goal was to uplift the quality of public education by standardizing its structure and content."[2]

I review these facts because I want to make clear that mass education and mass schooling have come to be equated, and that such an equation has been promoted by the educational fraternity. If that meaning of mass education is now accepted by the public, it is a credit to the efforts of educators who promoted it. The historical evidence is overwhelming. One need only casually look through the NEA Journal back through the decades of this century. Even the cartoons show a constant theme: public schooling is an essential instrument in conquering ignorance, poverty, crime, and insuring freedom and economic well being.[3] There is the clear implication that education occurs mostly, or even exclusively, in the public schools. The Mass Teacher from the mid-1800's on defends the public school as a necessary agency for educating the public. Educators have believed in and actively promoted a system of schools they assume is coextensive with education of the public. By 1880 the basic structure of that system was pretty well fixed: "It is, and was," in Michael Katz's words, "universal, tax-supported, free, compulsory, bureaucratic, racist and class-biased."[4] The emergence of this system is not a result of peculiar

social conditions that prevail in 1972, nor any set of conditions that have prevailed in the recent past. It is instead the result of deliberate decisions, made with conscious and passionate intent, to fashion a social instrument that fit with the particular view men once held of the world. The system that emerged was not without competing alternatives. There were alternatives promoted vigorously in the 19th century just as there are alternatives promoted today. The system that emerged and survived did so because its proponents were successful in constructing and promoting acceptance of a rationale that justified its existence.

No important public educator has ever forcefully or ardently tampered with that basic structure or its fundamental assumptions. The fundamental public argument that swayed men in the 19th century still sways men today: the need for some instrument to mediate between social structure and social change in a free society and to transfer essential attitudes, knowledge and skills for the continuity of the society is a need served best in the form of a professionally managed bureaucracy, a bureaucracy that conducts a mass education system that is universal, tax-supported, free, compulsory . . ..

Not all men agree. But the passionate and often violent public debate that marks this system now can also be seen in startling detail in the post-Civil War era. There is also a startling analogue of this system in Japan. Indeed, to my knowledge, there is no other school system in the world that so strikingly parallels our own as that in Japan.[5] The remainder of this piece is a discussion of what I believe are some of the crucial implications of the above observations, implications for the future of American education.

The dream of Mann and contemporaries is at hand. Public education has become nearly universal. Schools in America will shortly reach a state of saturation. By saturation I mean a state in which nearly every child completes a level of schooling believed to be, at the least, a minimum preparation for entry into the mainstream of the economy. That minimum may fall some distance from the maximum possible. In this country that minimum has been

believed for some years to be grade 12. It may shift as it is reached. The almost continuous growth and expansion of the elementary and secondary education system in this country during the last two decades will not be the major feature of the next two. Whatever takes its place may once again be a matter of conscious and passionately held views of how things are in the world and how the world should respond (as opposed to how things actually are and how it actually responds). If the prevailing argument continues to be one that supports a bureaucratic system, then quantity expansion may continue to be the main feature, but not at the elementary and secondary level as now defined. Increases in participation of more and more children in schools cannot continue once every child or nearly every child who enters the first grade successfully completes the last--in this case grade 12. Since about eight out of ten American children now receive a high school diploma, that condition is nearly at hand.

For those who are mindful of these things, the dropout rate has so declined since World War II that a century-long goal of universal schooling to grade 12 is not far from reality. Yet, as I will point out later, the dropout constitutes a more serious problem today than ever before. To say schooling can't expand, I simply wish to make the point that schooling in grades 1 through 12 can't expand much more. Since it has to be assumed that some children will continue to master knowledge at a slower rate than others, and some children cannot master certain knowledge at all, it would not be expected that every child complete twelve years of school. Exactly what the optimum point of saturation will be I don't know, but there are some knowable factors that will influence it. One of these factors will have to be school reforms which reduce educational disadvantages that originate in the child's social-psychological background.

Some Distinctions

There needs to be made a distinction between aggregate growth in the level of educational attainment, and the total growth in the amount of organized learning. There also needs to be a distinction made between educational attainment, and the expansion of those institutions we commonly refer to as comprising the education system.

It is possible for the total amount of learning to rise in any society without a corresponding expansion of the education system. The provision of organized learning outside the education system could accomplish that. By organized learning outside of the education system, I mean learning sustained through religious, economic, or military institutions. A significant increase in learning in the home would accomplish the same end.

It is also possible for the education system to expand without a corresponding rise in the level of aggregate educational attainment. Expansion could occur because people might simply study more things for longer periods of time in order to attain a given unit of education credit, or study more things for which "non-education credit" is given. But while in each of these cases there would be an overall increase in the amount of time and resources devoted to learning, it wouldn't be reflected in aggregate education attainment.

Under what conditions, then, would one expect a correspondence between growth in education attainment and expansion in the education system? That kind of correspondence could only result when education is confined to a relatively short time in each person's life, within a rather rigidly fixed age category and when there is no decline in population growth in that category; when no other alternative set of institutions provide legitimate education credits, and when there is a constantly rising level of demand for such credits (real or induced through compulsory school attendance); and when growth in attainment is measured solely by such education credits. Under these conditions,

one would expect a very close or even nearly perfect correspondence between rising levels of aggregate education attainment, and expansion of the education system. Because these conditions have existed for nearly a century, whenever there has been an upward expansion of education attainment, there has also been an expansion in the education system. The expansion has occurred because the only legitimate measure of aggregate education growth we recognize is the number of credited years of school completed. Growth in the amount of time and resources devoted to all forms of organized learning, as distinguished from education for credit, has far outstripped the expansion of the education system. That is but one of the peculiarities of growth in education. There are others.

James Coleman[6] observed that there seems to be a specific pattern of educational growth in Western societies in general. In Coleman's view the sequence moves from phase one, quantitative growth, to phase two, changes from differentiation to integration. From there it moves to phase three, qualitative changes, which make it possible for a larger number of children than before to succeed in school. The first stage of growth has meant a sequential (grade level by grade level) increase in the total quantity of deliberate education provided. This, in my view, has been accompanied by unavoidable changes in the structure of the education system marked by (a) movement upward in the locus of relative advantage each person has by virtue of more years of school completed than the average;[7] (b) upward movement of the locus of selectivity (at one point in our past, students were selected out of the system at grade nine but that point has now shifted to grade thirteen); and (c) development of counter forces against quantitative expansion such as marginal return on time and money invested in education, over-education and over-specialization in terms of actual job requirements, increasing costs per unit of instruction, and other factors.

This phase of quantitative expansion has generally been followed by a phase of growth marked by efforts to reform educational practice in order to correct imbalances in educational attainment. The reform efforts point toward changes which would make it possible for a larger number of children than

before to succeed in the education system by increasing the achievement level of children from impoverished backgrounds. While phase one and the correction phase described here are sequential and logically connected, they have different intentions. The intent in phase one is an increase in the number of years of education attained throughout the population. However, the correction phase has as its intention the reduction of educational disadvantages that are social and psychological in nature and which, if successful, would result only in the expansion of attainment levels among particular social groups. The two intentions may be connected at various points, but this is not necessary.

I also agree with Coleman that there is the potential for still another phase of change--a change in the structure of the system from a rigidly sequential hierarchy to an undifferentiated system which would permit flexible entry and exit at any level according to the perceived need of the learners. But nowhere in the world, to my knowledge, has this kind of change amounted to anything more than either talk, or a few isolated experiments. Furthermore, this particular phase does not have a logical connection to either phases of growth described above. The quantity of education a society provides can be increased or reduced independently of such a change. And correcting imbalances in attainment is not dependent upon such change. If such a phase does occur, therefore, it is neither the logical outgrowth nor the logical antecedent of the other two phases. If it does have a relationship to either of the other phases, Coleman speculates that perhaps the correction phase must actually precede, not succeed it. Yet, we need to be reminded that frequently educators believe it is necessary to reform the schools structurally, making them more flexible, in order to correct imbalances in attainment levels. Reform proposals for space-free, time-free learning configurations which would permit students to enter and exit the system at various levels, are often mixed up with proposals to change educational methods in order to reduce scholastic disadvantages. I will return to this point later.

The United States is the first country in the world to witness simultaneously the effort to carry on both quantitative expansion, and a correction

of imbalances in educational attainment. In the United States, the education system above the 12th grade began to expand during the 1950's and 1960's at a rate which if continued would mean something akin to universal higher education in this country sometime shortly after the turn of this century. This spurt of quantitative expansion in higher education has created the first opportunity, to my knowledge, to observe first hand separate parts of the system pursuing separate functions: (a) the elementary-secondary system having as its intent since the mid-1960's the correction of imbalances in achievement among social groups, and (b) higher education having as its intent an increase in the number of classroom slots available for potential students, by expanding the total quantity of education provided above grade 12. The net result of function (b) has been to continue the rise in years of credited education attained for the country as a whole which began in the mid-1800's.

In effect, what we observe is a discontinuity of purpose in the two sets of intentions, and in the two parts of the system. This observation is based on the following important point: To continue to eliminate high school failure is no longer a necessary condition for increasing the average number of years of school attained for the country as a whole. The high school dropout rate could remain stable while the aggregate years of school completed continued upward. It would mean simply that a greater percentage of those persons who do complete high school would enter and complete four-year college degree programs. It is perfectly compatible to have a stabilizing dropout rate at 18 or 20 percent, and still find that as a nation the average number of years of schooling completed continues rising. That would be true until there no longer was a residual group of high school graduates who failed to complete college degree programs.

What this would mean, of course, is a change in the historic ratio of high school completions to college completions. That ratio has never (except for a time in the previous century) exceeded one out of three, although recently it is on the upswing. That is precisely what one would expect if expansion in higher education were to continue while the dropout rate began

to stabilize. It simply is no longer necessary to encourage more people to complete high school in order to encourage more to enter and complete college.

The Expectation of Growth

Many anticipate that the minimum level considered necessary for every child to complete in school will eventually be shifted upward to some level above grade 12. The average level completed by each successive generation of Americans has constantly risen during this century. The expectation that it will continue--given the universal belief that schooling provides the minimum essential preparation for entry into the economy--is deeply embedded. Also, it may well be expected that the earliest level of schooling expected of every child will fall below grade 1. If either one of these expectations actually materializes, then further expansion is inevitable. There is every reason to believe these expectations are widely held--particularly in America and Japan. At least these expectations are widespread among those who would benefit from an expansion at these levels. Finding the resources necessary for fulfilling these expectations is another matter.

In every fundamental way, the principle that accompanies these expectations is that any time there is an increase in the social demand for education, the core system of schools must expand. This principle rests on the premise that the best place for the transmission of knowledge, attitudes and skills is in a system of public schools and colleges. In both Japan and America there is an enormous vertical pressure exerted on the schools to expand. That vertical pressure has resulted in a nearly universal elementary-secondary system in both countries. But in its wake one finds many problems.

The disadvantaged are the step-children of a system sustained and nourished by and for the majority but not the exceptional. The disadvantaged suffer more when others are educated more. The disadvantaged suffer more when increased demand for education results in expansion at those points above which it is

impossible for them to participate. The disadvantaged suffer more when school becomes increasingly bureaucratized, when increasing stigmata are attached to sorting, selecting, and categorizing children according to some socially based deficiency. The disadvantaged suffer more as learning becomes increasingly complex, vicarious, and abstract.

Will the disadvantaged suffer more in the future? Yes, but that suffering is very likely to induce a head-on collision between urban school reformers (and their political supporters) who argue the elementary-secondary schools can and ought to serve the needs of the disadvantaged child--regardless of cost--and those who press for more resources to expand opportunities in post-secondary education. The argument for the latter group is, at present, quantitative. The argument of both groups rests on the idea of equal educational opportunity. But for the reformers of the elementary and secondary schools, equal means equal benefits, while for the post-secondary advocates it means equal access. It can be expected that that meaning will change just as it has in the elementary-secondary argument. For either argument to result in action there will need to be more resources. It isn't likely that resources for both will be immediately available in anywhere near the amounts demanded, and it isn't likely that more resources alone, regardless of the amounts, will resolve the problem. I will return to these points later.

Growth and the Disadvantaged

Imagine a state of affairs in which there is no limit as to how much people want to learn, but there is a real limit to the amount of time and resources that can be devoted to learning. At the same time, imagine that certain segments of a society learn more rapidly than others and a small segment learn not only more rapidly but in more complex and sophisticated ways. Further imagine that a certain segment of the society has a real limitation, not only on the amount of knowledge it can master but also on the complexity of information it can handle; moreover, the length of time it takes members of that segment to

master knowledge generally not only far exceeds the length of time required by the most advantaged group, but it also exceeds the length of time required by the majority of learners as well. No matter how one defines disadvantagement, it will have something to do with the amount of time required to acquire certain skills, attitudes, and knowledge relative to others, and the success by which one translates this advantage into social advantage--higher incomes, social status, life style, career advancement.

Now further consider an educational system characterized by the following: it is sequential; it is universal up to some minimum level, but after that it is selective. Further, the system is characterized also by its preference for social groups; that is, the system is class-biased. As observed by several people, the general character of the education system benefits the most advantaged first, and only after that the least advantaged. As the schools benefit the most advantaged, and only then turn to correcting inequities by providing education for the disadvantaged, while the advantaged group seeks higher and higher levels of educational attainment.

The implications are clearly drawn. In peristaltic fashion, social groups move through the system but the advantaged saturate the system first and because it is sequential, continue to maintain their lead by saturating higher and higher levels of the system first. Moreover, because the system is rigidly sequential, those who do not benefit from the lower segments cannot then benefit from the higher levels.

As each quintile of the successor group obtains a given level of education, the cost has risen proportionately. For example, it cost proportionately more to graduate 80% of the school age population than 60%; it cost proportionately more to educate 60% than 40%, and so on.[8] But not only does the cost of educating each successor group rise proportionately, the cost of the predecessor group also rises rapidly because it is now seeking higher levels of education which require more time and a more sophisticated pedagogy. As the successor group improves its level of education, the predecessor group also lifts its

level. The process resembles a salamander slithering through time. As the tail reaches a given point, it finds the head has already passed that way.

The Trade-Off

The Victorian dream has been accompanied by a number of visions undreamt. While public education has become a nearly universal avenue of success, there are still social groups which fail in their efforts to use the schools--at least they do not succeed in proportions anywhere equal to their numbers. Yet every child is still expected to complete a level of schooling thought to be a minimum preparation for entry into the mainstream of the economy. At the moment, that level is believed to be grade twelve. The optimum level, of course, would be a different matter, and the optimum, rather than minimum, might be expected to vary from person to person but not from social group to social group.

Deliberately raising educational attainment beyond its present level must entail hard choices and very likely some shifts in priorities. The choice no longer is simply to decide what ought to be a minimum level of achievement for every child. It is, instead, to decide what ought to be the optimum level of educational attainment for the society as a whole, and what the consequences of that decision will mean. It seems a very sound contention that in making that decision it may well mean that through deliberate policies some persons will have access to higher attainment levels than others. It may also be an unintended consequence that some social groups will have access to higher attainment levels than others. Unless the minimum preparation expected for every person rises above grade 12, and that prospect seems impossibly expensive even for this nation, then the above contention seems unavoidable, given the nature of our education system.

There is, of course, the alternative of reversing the process. We might deliberately choose, as a nation, policies that would mean the devolution of

the schools. For the purposes of this paper, at least, that prospect will be left aside. I will presume that whatever the optimum level and however it is derived, it will reflect the historical upward movement of educational attainment in this country.

What we do want to examine in this paper specifically is the prospect of a trade-off between further reductions in school failure and continued quantitative expansion in higher education. By further reductions in school failure, I mean a continued reduction in the dropout rate at its historical pace, or, conversely, a continuing rise in the ratio of successful high school completions per entrant at the first grade level. The necessary condition would be the successful reduction of educational disadvantages which are social in origin. By continued expansion in higher education, I mean a continuation of the historically rising rate of enrollments and successful completions of four-year college degree programs. But keep in mind an increase in achievement levels of children from disadvantaged backgrounds, and a corresponding increase in the numbers of children succeeding in the elementary and high schools, is not a necessary condition for raising the aggregate level of education attainment. It is a necessary condition for raising the level of attainment for that social group. Quantitative expansion of higher education is now the necessary condition for any further aggregate growth in attainment.

Figures prepared by A. Dale Tussing and James C. Byrnes[9] confirm what one might suspect: meeting the two conditions at the same time in both parts of the education system is very unlikely without an overall increase in the resources we historically have been willing to devote to education. Assuming that the change in that historic rate which occurred during the decade of the 'sixties will continue, but will not greatly increase, then the end of the financial crisis in higher education will have to mean a permanent shifting of priorities.

Thus, Byrnes and Tussing argue that ending the crisis in higher education "is predicated on what amounts to a rise in the proportion of incremental funds

allocated to higher education." A rise in the proportion of incremental funds for higher education does not necessarily mean a corresponding decrease in the proportion of funds for elementary and secondary education. Due to the expected stabilization in enrollment in the elementary and secondary schools during the next decade, a residual of roughly 12.5% through 1985 would accrue if there is no significant change in the historic rate of increase in expenditures per student.[10] However, to apply that residual to higher education will mean a slowing down of the rate at which the dropout problem has been eliminated. Just how any shift in priorities can or will take place is unclear, but I want to set aside for the moment that a shift is complicated by separate tax bases, by scattered loci of policy-making authority, private endowments, political and parochial interests. Setting those considerations aside for the moment, what would be some of the consequences of such a shift, particularly for those likely to be seriously affected, namely, the potential dropout? What is the net cumulative social effect in this country of a 15% dropout rate for ten years? What are the social and economic costs when one considers Theodore Sizer's findings[11] in Cook County, Illinois, that approximately nine out of ten persons on welfare were high school dropouts? What are the human costs in lost dignity, frustration, crushed aspirations, and alienation? (I'm not arguing, of course, that a high school diploma will eliminate these problems. I do propose that a much larger effort is needed prior to the time dropouts leave school.)

Although in a quantitative sense dropouts appear to have gone away, the dropout problem is a more serious problem today than ever before. This is so for two reasons: (a) school failure is heavily concentrated in urban, Southern, and Appalachian schools, and those schools everywhere attended by the poor, and (b) in a society which expects that every person will complete a minimum of high school, and thus behaves as if it were true, not to have a high school diploma is disastrous.

The long time advocates of massive inner city school reform are unlikely to view with joy a stabilizing of expenditures on elementary and secondary education. What would this mean for urban schoolmen, long seekers of increased

funding for needed reform efforts? The prospect of a relatively stable budget would especially sour educators in those crisis urban school districts like Boston where the dropout rate is high, school success low, and funds scarce. But if some shift in priorities does not occur, and if one assumes the rate of education expenditures remains unchanged overall, then higher education will not be able to extricate itself from a serious financial crisis. What would a failure to shift priorities mean for higher education under these conditions? If the financial crisis in higher education is not solved, it will have to mean a slowing down of the aggregate historical growth in educational attainment above grade twelve in this country. What would that mean to the nation's economy, manpower demands, technological progress, research and development? What would it mean to groups of last entry into higher education (those who have not yet been able to enter colleges and universities in large numbers)--the blacks, Mexican Americans, Native Americans and the Appalachian and Southern poor whites? How can a shift in priorities be effected? Whatever the answers to these questions, they almost surely will mean a collision of interests between elementary and secondary schools on the one hand and colleges on the other if educational resources remain scarce.

This paper deals with what I judge to be among the most critical and most challenging policy issues of our time: where and in what forms should future growth in educational attainment in this country take place, and who should benefit? This issue is crucial because it must be considered in one way or another in policies whenever we consider balancing competing claims for educational resources, and hence the long-term distribution of educational benefits. Posed as it is here, this issue extends beyond the mere awareness of schoolmen.

II.

The Contest for Resources: A Crisis of Finance

Where and how should the education system expand in the future? If it cannot expand in a way that benefits every group, then how will it be determined that any particular group should be given first priority? How will competing claims for educational resources be balanced off during the 1970's? Will first claim be given to the needs of urban and rural school children who in large numbers require special services? If resources were to be so distributed, the costs of special education and compensatory programs might well exceed overall general school costs. On the other hand, will first priority for resources be given over to the claims of the colleges and universities whose general economic condition has been defined as a "financial crisis?" What is the likelihood we can satisfy both claims?

Costs and Benefits

In the decades since World War II education costs have increased at a considerably faster rate than GNP. In 1950 we were spending on current account about $325 for each child in school. By 1970 we were spending $785. Costs in higher education rose from $875 per student to $1,750.

What were the benefits? A school system in which more children could succeed at all levels. (To make this claim, of course, is to say nothing of the quality of education at any level.) Of those children who entered first grade in 1938 only about one-half received a high school diploma in 1950. Commencements in the Spring of 1972 were held for eight out of ten children who entered the first grade in 1960. This near-doubling in the rate of successful school

completions occurred during a twenty-year period when the school age population was itself expanding rapidly. Given these two factors, one way to imagine the dimension of change taking place in that twenty-year span is to realize that for every school system that existed in 1950, an entirely new one of almost equivalent size was needed in 1970. What this means in quantitative terms is that in 1970 a total of 51.6 million children were enrolled in some form of public or regular nonpublic equivalent of schooling at a total cost of $40.6 billion.

In higher education successful completions at the BA level have increased from 12% among twenty-three year-olds in 1950 to approximately 23% in 1970.[12] The great expansion of this age group occurred during the decade of the 1960's. For every 100 people of college age in 1960, by 1970 there were 50 more. Furthermore, during the decade of the 'sixties, enrollment doubled every eight and one-half years. What this means quantitatively is that in 1970 about 7.6 million students were enrolled in degree-credit universities, colleges, professional schools, teachers colleges and junior colleges. The total budget for higher education in 1970 was $17 billion.

Some Projected Costs in Higher Education

Byrnes and Tussing conclude that to simply continue the present conditions in higher education consistent with expected growth in the population of 18-24 year-olds, higher education must continue to demand and receive a significantly greater share of national resources during the 'seventies and 'eighties. To simply remain at the present crisis state, it will require expenditure increases of 8.8% during the period 1970-1975. But to restore the staff-student ratio to its 1960 level and to increase student years completed per person of college age by 3.8% by 1975, the financial requirement would mean annual increases of 12.1% in higher education expenditures.[13]

The Trade-Off

where will the money come from to resolve the financial crisis in higher education? One of two sources: an overall shift in national priorities, so that the historic incremental increases in total education dollars exceeds 5.5% annually, or, barring that, from the residual funds in the elementary and secondary system expected to accrue from a stabilizing school population. The latter may have to come at the expense of a fundamental change in the rate of eliminating the dropout problem. In order to apply the residual to the higher education target defined above (a 3.8% increase in student years completed above the 12th grade) Byrnes and Tussing figure a reduction in the dropout rate of roughly 10% over the next twenty years.[14] At that pace, the rate of increase in successful high school completions would fall to its lowest point of this century except during a brief period between 1940 and 1945.

Based on these assumptions there would be an increase in per pupil expenditures in the elementary and secondary schools through 1980. The increase would be slightly larger than the historical rate of increase. This kind of alternative suggests no financial crisis in the elementary and secondary schools, but neither would there be any substantial increase in total funding despite (a) the widely perceived need to radically reform the schools, and (b) the need to find ways of more rapidly accommodating children from disadvantaged families. Simply put, the trade-off question is to decide who benefits from the expected school revenue surpluses which result from the declining birth rate of the 'sixties.

What are the effects in higher education if the residual funds are not forthcoming? Byrnes and Tussing argue as follows: "Without the required funds, one or more of the following is necessarily implied: (1) insufficient increases in college attendance rate; unacceptable for social, racial, and economic reasons. (2) Decrease in staff-student ratio; unacceptable for structural, social, and educational reasons . . . (3) Insufficient increase in real expenditure per staff member; probably impossible, as discussed, and to the extent possible,

probably undesirable, as it implies long-term deterioration in the capital stock (including human) of higher education institutions. Since one or more of the three is necessarily implied by a failure to raise sufficient funds, then the issue of whether a financial crisis exists in higher education comes down to whether one believes the funds will be available, and if they are not, whether one believes the three outcomes are undesirable."

Posed against the considerations raised earlier, the crisis is really constituted on the grounds of which is the least undesirable: effects in higher education as described by Byrnes and Tussing, or a failure to sufficiently meet the needs of the elementary-secondary schools.

Choosing the Elementary-Secondary System as the Target of First Priority

Let us ask a different sort of question. How likely is it that the overall funds needed in education will be distributed in such a way as to focus first on elementary and secondary school indicators of success in reducing educational disadvantages such as the dropout rate, and only then to achieving the target of expanding opportunity in higher education? Either target would eventually benefit mostly social groups comprised of blacks, Mexican Americans, Native Americans, poor Southern and Appalachian whites, but the first would help slow learners and mentally handicapped children from all social groups. Those who would benefit least from the first priority are likely to be middle-class families with college-age children who find college and university tuition and expenses rising at a rate which outstrips income, property taxes spiralling, and the real prospect of being unable to send their children to college. There are some powerful arguments which suggest we won't set priorities in a way that not only benefit the least advantaged first, but also at the same time threaten to keep the advantaged middle class from accomplishing long-standing goals. I will return to this later.

What would be the cost of focusing on the elementary-secondary school needs? What would it cost to reduce the dropout rate to zero? What would it

cost to actually provide an education for the marginal child in the elementary school? The answer to both questions is unknown, of course. Furthermore, in order to establish what it would cost we need some estimate of the numbers of children who need such services. No such estimate exists to my knowledge in anything but the roughest terms. What we do know is that if the dropout rate had been reduced to zero in 1970, that would have added approximately 2.8 million students to the enrollment figures for public and regular nonpublic schools. However, there are few good estimates of the numbers of children who need specialized programs but whose problems do not qualify them for special education. Children who qualify for special education comprise roughly 3 to 10% of the school population (reflecting the belief that all children below minus 2 standard deviations on the normal curve need to be in special education). But in addition to those children defined as handicapped, there is a much larger percentage of children whose school success is dependent upon specialized help. Exactly how many children there are in this category has been a matter of debate for years among professionals. But there are some rough indicators.

Defining Marginal Learners

From NAEP data it is clear that an unexpectedly high percentage of children lack basic skills in science, writing, citizenship and reading.[15] Nine year-olds in American schools showed almost no mastery of basic writing mechanics (the results for 17 year-olds were not much better). The early science results are particularly relevant because they reveal major differences when broken into size and type of community, racial background, and level of parental education. The findings in brief are: if the student's parents did not have much education, or if he lives in the inner city, or if he is black, then he knows less about science than the nation as a whole. These data hold for ages 9, 13, and 17, and young adults 26-35. Data from the other curriculum areas (reading, writing and citizenship) show a similar pattern, although differences are not as sharp.

A survey in Montgomery County, Maryland, an affluent suburb of Washington,

D.C. showed that the five most frequent learning problems occurred in about 25% of the elementary school population.[16] These findings are consistent with other studies in other states. A similar survey in the six states region covered by the Appalachia Educational Laboratory showed generally parallel problems, although the percentages of children having the most frequent problems were higher.[17] Reading comprehension, for example, was reported to be a serious problem for an average of 17 students per teacher throughout the grades. That degree of prevalence is roughly double the Montgomery County rate.

These findings are consistent with other more recent longitudinal data. Findings from a study in Minnesota[18] show that approximately 41% of the children sampled had one or more of the following indicators of school failure: retention in grade level, special class placement, recipient of special services, or identification by a teacher as having behavioral or attitudinal problems that interferred with learning.[19]

Assumption I

> Assume that a minimum of 15% of all children enrolled in kindergarten through 9th grade in public and regular nonpublic schools require specialized help in order to make satisfactory progress in school. Using enrollment figures for 1970 that would have been about 5.5 million children.

What this assumes, of course, is that learning problems can be defined as undeveloped skills which make satisfactory progress under regular school conditions unlikely.

How much do special school services cost? There is simply no overall figures I am aware of available which describe the costs of compensatory and specialized educational programs. As an example, a student-teacher resource program in a Washington suburb is being funded at $500 per student above the general per capita expenditure of $1,200.[20] The program was originally designed for about 20% of the students enrolled in grades 9 through 12. The 20% figure

is based on the prevalence of problems found among high school students. In another program in the same school district, a new middle school for children with more severe learning problems is spending on current account $5,500 per student for a 12-month program. The costs of the middle school are largely accounted for by a student-teacher ratio of 4.5 to 1.

Compensatory programs described in the literature frequently do not reveal exact costs or, for that matter, any costs. Those which do span a very wide range, from a few dollars to the figures cited above.[21]

Assumption II

Assume that 15% of the school population, representing marginal learners below the 9th grade, receive two times the level of resources per capita now received by all students. Using the average per pupil expenditure in 1970 ($785) for approximately 5.5 million school children, the schools would have added roughly $4.3 billion to the total 1970 elementary school budget.

Dropouts

What would it cost to reduce to zero the dropout rate in grades 10, 11, and 12? Obviously no one knows the answer to that question. What we mean by the question is how much would it cost to attempt to provide an educational program for those young people who now have given up on school and no longer receive any benefits under school auspices (if they ever did). Clearly such a program must go far beyond the conventional concept of school. The Job Corps provides one example of such a concept. Setting aside whether it succeeded or failed, costs of the Job Corps provide an indication of what it might cost to educate the dropout population. The first year instructional costs alone (excluding other current expenditures for travel, clothing, supplies, allowances, etc.) were $2,969 per student enrolled in the Job Corps.[22] Total expenditures including capital costs were $8,077 per student.

The total dropout population in 1970 reduced school enrollments by roughly

2.8 million students in grades 10, 11, and 12. Simply to have had those children in school instead of out the school budget would have increased by $2.2 billion. By 1975 the total dropouts from high school would be expected to be about 1.1 million if the dropout rate continues to decline at its historic rate. The cost in 1975 for having the dropouts in rather than out of school would add about one billion extra dollars to the school budget.

Assumption III

Assume that the school dropout rate will be reduced to zero, i.e., that everyone below the age of 19 will receive a full 12 years of service from the school system. Further assume that all who otherwise would be expected to drop out will receive three times the level of resources per capita now received by those not expected to drop out. Under that assumption in 1970 the school budget would have included $2,355 for each dropout, or a total addition of $6.6 billion.

Combining all three assumptions above, the total increase in the 1970 school budget would have been approximately $10.9 billion.

Would we choose to afford these costs as a minimum cost of reforming the elementary and secondary schools for the educationally disadvantaged? Keep in mind that to raise this question is to say nothing of other kinds of school reforms or their costs--reforms which have little or nothing to do with reducing educational disadvantages as we have defined them here.

What would be the net deficit for higher education assuming we chose to reform the elementary-secondary schools as the first priority, leaving less of the residual for the colleges and universities? Byrnes and Tussing have figured a net residual of approximately 12.5% by 1975 will accrue if expenditures for E&S continue roughly at the rate of the 1960's. For the "transitional" condition to exist in higher education all of that residual is crucial.

However, if the assumptions of reform described above were to be implemented in the elementary and secondary schools, a net deficit of -6.5% would

exist in 1975 instead of the 12.5% residual.[23] By 1980 the crisis would lessen but not go away. While the actual residual needed by 1980 to effect the "transitional" higher education system is 10.5%, it would be only 6.7% under the above assumptions.

III.

Correcting Imbalances in the System

Will we choose to trade off higher education claims in order to first meet the needs of the elementary and secondary schools? Only if we can safely make two assumptions: (a) the public will accept a system of education which distributes its resources automatically on the basis of need, and (b) educators know how to reduce educational disadvantages which are embedded in social origins of the child.

Resources According to Need

What we take to be the distributive principle expressed in assumption (I) now exists to a limited degree in practice. We now, in fact, spend more on certain children than others because they need more help. In some instances the public will support education expenditures for the handicapped which run as high as 4 to 1 over general school expenditures. However, the expenditures represent only a small part of the total education budget. The crucial point is that we are currently willing to support unequal expenditures of public school funds for handicapped children. Of course, this expenditure is not a significant percentage of the total budget. The stigmata in special education is at present physical, not social. The child and his parents are not responsible for the handicap, nor are the problems of the handicapped heavily concentrated among any particular social group. If the principle of need were to be greatly expanded, as it would have to be to tackle the urban school dropout problem, I strongly suspect there would be enormous resistance from those who

would not benefit directly.

I make this argument because I see a connection between the distributive properties of assumption (I) and the general values in this country regarding dependency, individualism and public subsidies. As long as the learning deficiency is thought to stem from a physical impairment, school programs stand to benefit people in all social classes. When learning deficiency is defined as social in origin, particular classes stand to benefit more than others. This leads to a situation where we are willing to distribute educational resources according to need when the need is physical, but not social in origin. When laid against what we assume is the satisfaction of majority demands (most people do successfully use the schools) and against rising per pupil costs, these factors begin to take on enormous importance.

Dependency and Individualism

We still seem to value "individualism" as a social doctrine, even though its present form is largely rhetorical.[24] Historically, that view of society is thought to have been current in America in the last century and early in the present. Individualism holds that each individual should be understood to exist quite independently. "To each his own." It is still a part of the American rhetoric that each person is to be self-reliant. Individualists view dependency as a weakness associated with idleness and sloth.

All people are expected to provide for themselves. That is, they should be self-reliant. Accompanying this belief are certain "disbeliefs" about those who cannot provide for themselves. Dependency is believed to be a moral weakness. It is perfectly okay to be disadvantaged, but not okay to be disadvantaged and dependent. Social or public aid runs counter to independence. It dulls initiative, encourages idleness. Although Americans have pieced together very strong programs of categoric aid, comprehensive social aid programs on a broad scale are unacceptable in principle. As a result of that

principle, existing programs are often designed to appear to be something else, e.g., "National Defense Education Act," "soil bank," "parity," and so on. The interesting point is that people in such programs accept them as in keeping with, rather than in violation of, the ideology of individualism.

However, the very same people often view people in welfare programs primarily as a kind of "surplus" population and as basically social illegitimates. In keeping with the punitive nature of American dealings with the immoral and the weak, application for welfare aid is often degrading, names are made public information, labels such as "public housing" are used to make visible one's condition of dependency. Food chits for welfare recipients is a more dramatic example. And even though we distinguish between the "deserving" and "undeserving" indigent, people unable to be self-reliant, regardless of circumstances, are still regarded as essentially illegitimate. Although "deserving," the elderly should have had more foresight, all children should be cared for by their parents--if not, then by their relatives. The sick should have had medical insurance, high school dropouts should have known better, and the unemployed could find work if they looked. Both the deserving and undeserving make up the surplus in our society. And the tendency is to provide them, insofar as we can, only physical goods--food, shelter, clothing, medicine--but no real means of exercising economic choice or social mobility.

The essential point to be made is that once a significant proportion of the population obtains social aid applicable to itself, then the motive for continuance of the spread of social aid to remaining groups may be slowed. Those so benefited seem willing to use the rhetoric of individualism to argue against extension of aid to others. Such an extension, they argue, is a violation of sound philosophic principle. Our belief-disbelief systems are such as to allow us to accept social aid for ourselves while at the same time reject it for others. Our beliefs are such that camouflaged programs, it can be argued, are not really social aid programs at all. Aerospace industrialists, oil speculators, and farmers receive aid in amounts of millions of dollars. Members of unions are protected by an array of public-supported programs. Yet

all can argue against other aid programs as undermining initiative, wasting taxes, especially when such programs quite clearly are intended to aid only the disadvantaged. In principle, I am arguing that satisfaction of the needs of an advantaged majority may be sufficient to slow social aid (in this case educational aid) to the unprotected minority. And that outcome is more likely if the cost of providing such aid is increasingly expensive, as is the case in educational programs for the disadvantaged, and if the stigmata is social rather than physical.

Satisfaction of Majority Demands

The second factor I have in mind results from the maturing of the elementary and secondary school system in America. By maturing I mean a system which has moved from satisfactorily providing credentials for only a tiny minority of the population to one of providing credentials to a large majority.

As mentioned earlier, the percentage of 18 year-olds possessing high school diplomas has increased from about 6% in 1900 to about 80% in 1970.[25] This is a remarkable growth--in actual numbers from some 90,000 graduates per year to almost three million per year. What this must mean eventually is a virtually certain slow-down in the growth rate of the system--in effect a maturing of the system. A sizeable majority of the population is now able to acquire, at public expense, the credentials to enter the economy, or opt to continue for still more education. It has been pointed out that this process resembles the fulfillment of a function similar in principle to the teleological function of the medieval church, providing the credentials needed to enter heaven, which today is entry into the mainstream of economic wealth and status.

However, the spread of secondary education to the majority may also have the effect of blunting the pressure for continued spread. In fact, the major force which now seems to be emerging is for those in the majority, those who

have made it to high school graduation, to press for still more. The percentage of high school graduates who opt to go on "making it" by entering college has tripled since 1940. The demand for resources to extend elementary and secondary education programs to the small minority, who currently leave the system before reaching the 12th year, must in effect compete with resources to expand community colleges, four-year colleges, state and private universities, junior colleges, professional schools, and other forms of post-secondary education to handle this three-fold increase in college enrollments. This factor taken alone is powerful. It probably is sufficient to slow or stop the historical spread of education to the potential dropout, especially when policy-makers become convinced the greater problem in education has shifted to post-secondary. Laid against the reality of increasing costs in education generally, and particularly against the even higher costs of special or compensatory programs, it seems reasonable to expect a slowing effect in the extension of programs to the remainder of the population--primarily the hard-core disadvantaged.

Increasing Per Unit Costs

A third factor is important in considering the spread of educational services to the minority. Some enterprises, under increasing demand, cannot rapidly increase efficiency.[26] The schools constitute such an enterprise. In their present form, as "labor-intensive" organizations, when schools provide more services, those services become more and more expensive. There has been a rapidly rising cost per unit of instruction in education. That trend will very likely continue until we find a way to transform schools from labor-intensive to capital-intensive enterprises. Simply put, costs will increase on account of the absence of cost-saving technological changes. Nonetheless, skill needs, consumption desires, status needs, and leisure education point to continued increases in quantity demand for education. The increase in quantity demand and per unit cost will require continued rapid increases in public funding for education. As a national average, the per pupil expenditure for elementary and secondary schools has risen from roughly $185 in 1930 to approximately

$785 in 1970. The cost has increased nearly 100% since 1955. However, it is and will continue to be much more expensive to educate the disadvantaged population. Much smaller classes, highly specialized personnel, special materials and tools, slower rate of learning, complex social-emotional and cognitive problems, special diagnosis and prescriptions tailored to individuals rather than groups--all of these contribute to present high costs, and suggest that costs of special and compensatory education will rise even more rapidly than general education costs.

Alternatives for Breaking the System

The currently fashionable reform proposals in education focus primarily on more flexible alternatives within and between schools.[27] Yet, simply to have more flexible schools or more flexible alternatives to schools is neither a necessary nor sufficient condition for reducing the achievement gap between children from different social backgrounds. While these reforms are important for other reasons, we could have them all and still maintain or even widen the gap between advantaged and disadvantaged. We could have none of the reforms and still reduce the gap.

Regardless of what specific educational proposal we examine, it must have something to do with the mix of (a) time, (b) resources, (c) each child's aptitude, and (d) each child's pace in mastering the curriculum. There is little to be done about aptitude. But by various combinations of time and resources, it is possible in principle to alter the pace of mastery and thus reduce the gap in educational achievement caused by social background. One of the following alternatives will prove to be necessary: (a) hold constant the pace of mastery of advantaged children while the disadvantaged catch up, or (b) speed up the achievement rate of the disadvantaged so that it temporarily exceeds that of the advantaged until the gap is closed, or (c) reduce the rate of achievement among the advantaged so that the disadvantaged eventually catch up.

These alternatives assume that at least one of the following is possible: (a) a pedagogy that would help the disadvantaged but have no particular benefit for the advantaged, or (b) a disproportionate allocation of resources to the disadvantaged while preventing families of the advantaged from providing supplements outside the school, or (c) a disproportionate allocation of learning time to the disadvantaged while advantaged children remain idle (spending no time in organized or informal learning activities). None of these constitutes a feasible practice or policy in American education today. In concept they are only possibilities.

Disproportionate Resources

The practice of allocating disproportionately greater amounts of learning resources or learning time to the disadvantaged has been tried, but has in fact not been successful. Failure has occurred primarily because educators cannot control the total learning environment of each child, and it is that part of the environment outside of the control of the school which accounts for most of the variance in achievement. That being the case, advantaged families supplement and reinforce whatever beneficial effects are derived from school, no matter how time and resources in school are allocated, and thus the achievement gap prevails, or even widens. Any effort at disproportionate allocation of resources within school will very likely suffer this fate. Where efforts have been made to distribute resources according to need, the advantaged have simply raised the educational ante to whatever level is necessary to offset any effect of the change in distribution of resources in school. The result is likely to be the same whether through entirely private efforts (private schools, extra tutoring outside of school, commercially produced learning devices, educational toys, etc.), or through increases in per pupil expenditures for the schools by private donation (PTA), gifts, and other fund raising activities, or increasing local tax revenues.

Coleman and others have noted that school reform anywhere in the Western

world which threatens to change the selective advantage enjoyed by the advantaged social classes has been resisted strongly.[28] Indeed, the practice of providing supplementary learning resources through the home and other activities is a distinguishing trait of the advantaged. The key factor is that advantaged families enjoy an educational advantage because their children attend schools which are selective, but selective in such a way that families who can provide resources outside the schools stand to benefit. The advantaged family can simply afford to offset any loss of advantage incurred in school through supplements outside of school.

Mastery Learning

Let's examine another set of propositions regarding the mixture of time, resources and each child's pace in mastering the curriculum. It has been proposed that the system be broken by simply guaranteeing every child a certain level of mastery (mastery over whatever part of the curriculum requirements the school deems necessary for high school graduation) regardless of the cost or time.

If it is presumed some children master some things not only more rapidly but also in more complex ways than others, and if it is presumed that schooling must take place during a relatively fixed period in one's life, then it follows that the level of successful school completions must remain somewhere below 100%. It is a fact that there are some children who master number sets by age six. There are others who don't master number sets until age ten and there are some who never master number sets at all. It is presumed to be too difficult for them. The key, then, according to some educators, for raising the optimum level of school success beyond its present level, is to discover what it is that causes a child to have difficulty in mastering number sets. Once that is discovered, a particular pedagogy is designed that will correct his deficiency. The essential idea is that there are few children (those whose intelligence is immeasurably low) who can't learn . . . only children whose

prescriptions for learning are not right.

If carried to its logical conclusion, we are talking about individual prescriptions that "cure" only me but no one else in particular. That is, if they do, it is only incidental. It can easily be seen that such an approach has in principle no obvious natural limits. For example, it can be argued that the critical factor in reducing learning deficiencies is more teacher time spent with each child. Thus it follows, smaller classes would be necessary. If it can be argued that class sizes of fifteen are necessary, then it also can be argued as well that a class of five would be even better. If five is better than fifteen, then still better yet would be one teacher to one child. Indeed, the tutorial approach has been thought of as the ideal. But would it be? Would it not be still better to have a multi-disciplined diagnostic team that would view each child's case history and prescribe individually tailored learning activities to be carried out under the direction of various instructional specialists? The staff/student ratio conceivably might be reversed. We may end up with more professional staff than students. While such an arrangement was once viewed as impossibly expensive, just such a progression of policy thinking, particularly among educators of the handicapped, has been taking place.

But if such a learning arrangement were to work wonders for the handicapped child, it undoubtedly would also work for the advantaged child. It is, in fact, most often the case, that educational innovations, even though intended for the handicapped and disadvantaged child, work even better for the bright child. If that happens, then the disadvantaged child is no better off, relatively speaking. Indeed, he may be worse off. The effect would be to raise the standard for all children. For example, with the growing practice of providing organized learning activities for the pre-school child through ETV, kindergarten, day care centers, and nursery school, first grade teachers have raised their expectations about the level of cognitive development a child should exhibit in order to be "ready" for first grade. It follows, then, that the promoters of policies for the learning handicapped cannot make the

claim that their prescriptions will lessen the relative distance between the advantaged and disadvantaged, if their prescriptions work equally well for all. What we may be forced to accept is that everyone is better off when the level of mastery is increased overall, even though the distance between the most advantaged and most disadvantaged remains unchanged or even widens.

Individualized Instruction

There is a good deal of confusion about how the variables of time, resources and mastery are to be arranged and controlled when individualized instruction is proposed as a policy alternative. Let me make some observations drawn largely from remarks prepared for a symposium at the American Education Research Association in 1970.[29]

The crucial condition is who controls the important elements in learning; these include, of course, time, goals, and means or resources for accomplishing goals. The way these are expressed generally is to talk about children "progressing at their own rates" and to talk about "openness"--meaning, to one degree or another, the teacher has relinquished control over some or all of the above. A good deal of the talk is rhetoric. Children have always progressed at their own rates. By operating as it does, the elementary-secondary school already finds itself with two-thirds of the children, at any given grade level, spread over a very wide range. Schoolmen have realized for years that the spread is approximately equal to each grade level. At grade four, for example, we would expect, on the average, to find two-thirds of the children achieving over a range of four grade levels. The slowest learners would be four grade levels behind the fastest learners. All other things being equal, when achievement is the key variable, we have always found that there is a rather constantly increasing spread between the brightest and dullest children as they progress from first grade to twelfth grade.

What ought to be conveyed in this concept is not that the student progresses at his own rate, but that he controls to some extent the rate at which he masters knowledge. In short, we ought to be speaking of a learning activity in which the student has some control over the rate at which instruction proceeds. The significant point is the locus of control. If it is the learner who controls the pace of instruction, we might expect him to repeat again and again certain things, or to slow down or speed up others. The significant difference is not that students progress at their own rates but that the locus of control is shifted to the learner. For the moment, we realize full well that it is not the learner who in most cases controls instruction; it is instead the teacher.

But what about the disadvantaged? Proponents of individualized instruction and mastery learning quite correctly argue that the correlation between aptitude and achievement could be reduced, theoretically to zero, if learning were tailored to each child's learning style and speed. Thomas Green has pointed out that while the correlation between achievement and aptitude reaches zero, the correlation between aptitude and time would, in all likelihood, approach one. Bloom and others have found in mastery learning, for example, that a ratio of 1 to 5 separates the slowest child from the fastest. Whatever curriculum sequence requires the slowest child 5 hours for mastery, may take the fastest child only 1 hour.

It should, therefore, be understood that under ideal conditions, mastery learning will produce a wider gap between the fastest and slowest students if time is held constant. It simply is not logical to expect anything else. Yet, perhaps more important is the realization that by transferring to the learner some aspects of control over the process of learning, we may be enhancing his self-concept, his feeling of potency and efficiency. If so, these kinds of benefits may have much more potential for all children in their personal growth and development and in later adult functioning than the mastery of any particular curriculum.

Some Conclusions

What can be done to break the system? The only answer we seem to be able to come up with now is to propose some form of a total learning environment which would have the following features: (a) basically an experiential and responsive environment incorporating the best of what we know from such experiments as O. K. Moore's talking type-writer; (b) among the adults involved the presence of a shared, objective, organic interest in the future of the children; (c) a distribution of learning resources automatically according to each child's learning need, regardless of cost; and (d) separation of the child for a significant proportion of time from debilitating influences outside of the learning environment. What this amounts to is a total institution. The likelihood of its acceptance is extremely remote and the likelihood of its cost extremely high.

If these assumptions are correct, they ought to be frightening. The reason is contained in this observation: although the 12th year of schooling is less beneficial as more people attend college, not to finish 12 years is an irrevocable disaster. Let me put the problem this way. If one defined the disadvantaged as those individuals one standard deviation below the mean education attainment level of age cohorts, then that level has constantly risen during the last 50 years. For example, among age cohorts 35 to 39, 51% had completed 8 years of schooling in 1900, and only 12% completed high school. The proportion completing 4 years of college was less than 3%. Today, however, the figures are about 98% completion of grade 8, 82% completion of grade 12. The mean number of years of schooling completed in 1970 for the 35 to 39 year-old cohort is approaching 12 years. A decade ago it was 11 years completed; in 1950 the mean completion was 10 years. The historical trend has been one additional year of school completed for each decade.[30]

Obviously, those persons one standard deviation from the mean have been achieving more years of schooling with each passing decade. Thus, the

advantaged, as well as the disadvantaged, have achieved more years of schooling each decade just to stay even. One standard deviation (taken here roughly as that point of 16 1/2% attrition) is now 10.5 years of school completed. One standard deviation below the mean in 1900 was 3.5 years of school completed. Simply put, those people one standard deviation below the mean in 1970 had actually completed more years of schooling than the average person had completed in 1950! Moreover, because schooling is rigidly sequential, those who have dropped out prior to high school graduation have a very slim chance of ever re-entering the system at a higher level. Their failure in using the schools is not only socially and economically disastrous; it is irrevocable.

The social and human question is one of a large and serious condition of people without useful or marketable skills, as we define such skills, in a society that equates market value with human value, and education credit with occupational potential. The educational question is one which goes beyond the bounds of merely identifying the "mentally retarded," the "emotionally handicapped," the "socially disadvantaged," or the "economically deprived." It is not a question of labels but instead is a question of what impact our educational institutions can have on significant numbers of children with basic social, emotional and cognitive deficiencies, which in turn lead to learning difficulties and subsequent social failure. In short, what is needed is a massive reform of the schools which focuses on practices that reduce rather than increase the gap in achievement between advantaged and disadvantaged children and reforms which redefine the prerequisites for learning a livelihood. Educational preparation for many, in the long run, has proven not only to have been insufficient but debilitating. The causality of this failure is a very complex interaction among social, emotional, cognitive, and institutional factors. But the failure is nonetheless irrevocable. Most people never reenter the system once they leave it. Their failure in school is taken as evidence of their likely failure to successfully enter and function in other institutions.

The Need for Changing Definitions

There are, of course, two ways of defining those eligible for additional resources: children from disadvantaged backgrounds and children who are achieving at low levels. Obviously there is considerable overlap, but there is likely to be far greater acceptance of the latter as a justification for expenditures because rich as well as poor families may be in a position to benefit. But even with the validity of *prima faci* evidence (i.e., the children obviously need help), to pursue such a policy would mean significantly increasing resources and time for a substantial proportion of the school population--in some cases, the majority. To mandate that the schools must *automatically* allocate resources to under-achieving children so that they would be brought up to satisfactory levels of performance would create a financial crisis of enormous proportion in most school districts. To do so would require exceeding the proportion of education dollars we now devote to the schools, even though not to do so means we are willing to continue to say some children deserve to "survive" while others do not.

Notes

1. Laurence A. Cremin. The Genius of American Education. N.Y.: Vintage Books, 1965, pp. 8-9.

2. Michael B. Katz. Class, Bureaucracy, and Schools. N.Y.: Praeger Publishers, 1971, p. 33.

3. See, for example, W. T. Weaver. "Humor and Education," Phi Delta Kappan. Vol. LII, No. 3, November 1970, pp. 166-196.

4. M. Katz, op. cit., p. XX.

5. Sumiya Mikio in "The Function and Social Structure of Education: Schools and Japanese Society," Journal of Social and Political Ideas in Japan (Vol. 5, Nos. 2-3, December 1967, pp. 117-138) discusses aspects of the historical growth and development of the Japanese school system, together with its social function. His argument is that the basic structure and function of the system were formed with the emergence of Japan as a significant industrial and military power and its demands for an expanding managerial class. An industrial Japan, Sumiya argues, forced Meiji leaders to each further and further into the lower classes for manpower. Sumiya states, "In other words, the heavy demand for qualified personnel helped consolidate the schools and forced them to determine and train 'men of talent' in an organized manner. Those whose ability recommended them to higher levels of education qualified at the same time to scale an appropriate rung of the ladder. Their education entitled them to a higher social stratum. This meant that no matter how humble one's social origins, if he graduated from a high ranking school, he was eligible for a social class appropriate to the level of his alma mater. Herein lies one of the secrets of Japan's high rate of social mobility."

6. James C. Coleman. "Elements of Importance for Increasing Achievement Levels of Children from Disadvantaged Background." Paper prepared for Center for Educational Research and Innovation, OECD, January 25, 1970.

7. By less relative advantage I mean simply the recipient of schooling finds his product less valuable the more others share it. One's advantage is offset in competing for certain benefits that are conferred primarily as a result of schooling--such as jobs and social standing. If anyone has a high school diploma, then having one no longer sets people apart. Those who have the advantage are unlikely to share it willingly. There is, of course, the argument that the greater the number of people who become educated, the more it enhances those with an education. This might be called the "Ma Bell" principle. The greater the number who have telephones, the greater the advantage of having one. In this sense it would be of as

little value to be the only person in a society who could read, as to be the only person with a phone. There would be little to read since every other person must function without reading. Obviously these two arguments deal with different things. The relative-advantage-argument rests largely on the presence of some legitimizing function to certify that a higher amount of schooling is worth more in the job market than a lesser amount. This is a crucial point becuase in this view, being "schooled" is seen as a benefit, not because it guarantees a person will actually know something, but because it is a necessary condition for entering the economic mainstream. Schooling in this sense has no intrinsic value. It has value only as a certificate for service. The other argument, the Ma Bell argument, is based on a view of education as having intrinsic worth. The relative advantage argument must be considered an extremely powerful factor in determining the future growth of the education system. It is extremely powerful because the locus of relative advantage is constantly tran sferred upwardly as lower parts of the system become saturated. Since almost everyone now has a high school diploma, that is no longer an advantage. What this means is that upward pressure must intensify in the post-secondary domain.

8. In 1935, when approximately 35% of 18 year-olds received high school diplomas early, per-student expenditures in elementary-secondary education averaged approximately $200; in 1955 with 60% completion rate, $400; and in 1970 with 80% completion rate, $710, all in 1968 dollars. The primary reason costs have risen in proportion to years of schooling received is two-fold: (1) materials and subject matter more complex, teachers more specialized, and more teachers per student, (2) prices (salaries, materials and facilities) increase with time. In 1920, when only 3% of 23 year-olds graduated from college, the student cost per capita was $400 per year; in 1970, with 23% of 23 year-olds graduating, costs had risen to $1,370 per year in 1968 dollars. Source: James C. Byrnes, "Quantity of Formal Instruction in the United States," Educational Policy Research Center, Syracuse, New York, Working Draft 1970. See especially p. 42.

9. James C. Byrnes and A. D. Tussing. The Financial Crisis in Higher Education: Past, Present and Future. Educational Policy Research Center at Syracuse, September 1971 (revised December 1971).

10. Byrnes and Tussing, p. 26.

11. Theodore Sizer. The Schools in the City. The Metropolitan Enigma. Washington, D.C.: The Chamber of Commerce of the United States, 1967.

12. These figures in this section of the paper were developed by James C. Byrnes, Senior Research Fellow, Educational Policy Research Center, Syracuse, New York. The detailed figures are reported in various reports including the following: J. C. Byrnes, "On Growth and Financing of Post-Secondary Education : Who Pays, Student or Taxpayer." Paper prepared

for the Educational Staff Seminar on Alternatives in Post-Secondary Education, Educational Policy Research Center at Syracuse, April 30, 1971 (Available in Notes on the Future of Education, II, 3 (Summer 1971) Educational Policy Research Center,) J. C. Byrnes and Michael Folk, "The Quantity of Formal Instruction," Educational Policy Research Center at Syracuse, 1970, and J. C. Byrnes and A. D. Tussing, The "Financial Crisis" in Higher Education: Past, Present and Future, Educational Policy Research Center at Syracuse, September 1971 (revised December 1971).

13. Byrnes and Tussing suggest the 1975 target is probably unattainable. "To do so by 1985 (8.9% annual increase in funds) or by 1990 (7.6%) is more nearly within our grasp." The "Financial Crisis" in Higher Education: Past, Present and Future, p. 17. It also is clear that two factors accounted for a large measure of the growing costs in higher education during the 1960's; (a) increases in salaries of staff approximating the growth in median family income in the U.S. during the 1960's, and (b) population increases in the 18 to 24 year-old group. However, not only did these two factors prevail during the last decade, but two others did also: college enrollments doubled every 8 1/2 years (twice as fast as increases in the age category), while student-staff ratios fell at a rate less than one percent per year. These combined factors required an increase in funds in constant dollars at the rate of 11.1 percent per year from 1960 to 1970.

14. See The "Financial Crisis" in Higher Education: Past, Present and Future, p. 24.

15. NAEP, a publication of the National Assessment of Educational Progress, a Project of the Education Commission of the States. Denver, Colorado. See volumes III, No. 4; IV, No. 1; IV, No. 3; V, No. 1. For additional details, see Report 1, 1969-1970 Science: National Results and Illustrations of Group Comparisons, July 1970; Report 2, Citizenship: National Results, November 1970; Report 3, 1969-1970, Writing: National Results, November 1970; National Assessment Report 4, 1969-1970 Science: Group Results for Sex, Region, and Size of Community, April 1971; National Assessment Report 5, 1969-1970 Writing: Group Results for Sex, Region, and Size of Community (Preliminary Report), April 1971; National Assessment Report 6, 1969-1970 Citizenship: Group Results for Sex, Region, and Size of Community, prepared by Vincent N. Campbell, Manfred J. Ferris, and Daryl G. Nicholas, American Institutes for Research, July 1971; and National Assessment Report 7, 1969-1970 Science: Group and Balanced Group Results for Color, Parental Education, Size and Type of Community and Balanced Group Results for Region of the Country and Sex, December 1971.

16. Montgomery County Public Schools. "Focus on Children with Undeveloped Skills, A Pilot Project," Title III, ESEA. Rockville, Maryland, December 1967.

17. Appalachia Educational Laboratory, Inc. "Directions for Educational Development in Appalachia. Report on an Educational Needs and Feasibility Study Involving the Appalachian Areas of Six States." Charleston, W. Va., November 1971. See Chapter 4: "Educational Needs as Perceived by Public School Personnel," pp. 27-39.

18. Rosalyn Rubin and Bruce Balow. "Learning and Behavior Disorders: A Longitudinal Study." Exceptional Children. Vol. 38, No. 4, December 1971, pp. 293-299.

19. The cumulative percentage of grade level retention was approximately 15 percent. Special placements and special services had been instituted for approximately 24 percent of the subjects in the study. Teachers identified about 28 percent of the children as manifesting serious behavioral or attitudinal problems.

20. Information provided by William R. Porter, Director of The Mark Twain School Project, Montgomery County Public Schools, Rockville, Maryland, June 1972.

21. See, for example, Edmund W. Gordon and Doxey A. Wilkerson. Compensatory Education for the Disadvantaged. College Level Entrance Examination Board, New York, 1966.

22. Sar A. Levitan and Garth L. Margum. Federal Training and Work Programs in the 'Sixties. Ann Arbor, Mich.: Institute of Labor and Industrial Relations, 1969.

23. Source: Memorandum from James C. Byrnes, re: "The Contest for Resources: The School System vs. Higher Education." May 25, 1972.

24. A. Dale Tussing. A Social Model of Poverty and The Progress of the Welfare State. Working Draft, Educational Policy Research Center, Syracuse, New York, October 1969.

25. Byrnes and Folk, op. cit.

26. For a detailed discussion of this phenomenon, see John A. Henning and A. Dale Tussing, "The U.S. Economy Through 2000: Forecasts of Major Macroeconomic Variables," 1971; "Long-Run Growth of Non-Defense Government Expenditures in the United States," 1970; and the "U.S. Economy Through 2000 A.D., Progress Report," 1969. All: Educational Policy Research Center Working Drafts. See also, Henning and Tussing, "Baumol's Disease: A Closer Look at Unbalance Growth," forthcoming.

27. The reform proposals can be usefully described as focusing on easier movement across formerly rigid school boundaries: within and between grade level, and between school and community. These proposals are accompanied by corollary proposals: various forms of contracting for educational services, various forms of school credit for out-of-school learning, and various forms of "alternative schools." The flexibility proposals within grade level are concerned with group for teachability and movement of children from activity to activity, resource to resource, program to program, but generally within age grouping. Examples are modular scheduling, Trump Plan (small group/large group), individually tailored instruction, differentiated staffing, tracking, branching, and flexible scheduling. There is considerable overlap between these proposals and those which focus on vertical transition, or more flexible movement through the traditional sequence of the curriculum by grade level. Examples of the latter are continuous progress, non-graded school (where there are grade levels but they aren't called that), advanced placement and so on. These proposals have evolved into a cluster of arrangements described variously as "open concept," "open classroom," and "open campus." The "open" concept proposals all focus in one way or another on various forms of student independence within school and between school and community. There is some confusion about whether "open" means the student defines his own goals and strategies, or whether it means he earns "free" time once he has completed a prescribed program, or whether it simply means his learning time is spent in the absence of a teacher.

    The credentialling proposals have as their intent to legitimately recognize what the learner knows and can do, rather than how long he was in school. Examples include CLEP, non-campus universities and high schools, work-study and community schools. The contracting alternatives include performance contracting and voucher plans. The intent is to provide alternatives to the school as the sole agency for providing educational services. The crucial point is that none of the above is necessarily relevant to reducing the achievement gap between advantaged and disadvantaged children.

28. J. S. Coleman, op. cit.

29. W. T. Weaver and K. N. Fishell, Co-Chairmen. Symposium: "Individual Modes of Instruction and Control Implications for Present and Future," American Education Research Association, Minneapolis, Minnesota, April 1970.

30. Byrnes and Folk, op. cit.